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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,125	02/05/2004	Sharon A. Elsworth	RTN-194AUS	3259

33164 7590 01/26/2007  
RAYTHEON COMPANY  
C/O DALY, CROWLEY, MOFFORD & DURKEE, LLP  
354A TURNPIKE STREET  
SUITE 301A  
CANTON, MA 02021

EXAMINER
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MATZEK, MATTHEW D

ART UNIT	PAPER NUMBER
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1771

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/773,125	Applicant(s) ELSWORTH ET AL.	
	Examiner Matthew D. Matzek	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-7 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/06</u> . | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/27/2006 has been entered.

***Response to Amendment***

2. The amendment dated 10/27/2006 has been fully considered and entered into the Record. New claims 23-30 have been added. Claims 4 and 8-18 have been canceled. Claims 1-3, 5-7 and 19-30 are currently active. The amendment of claims 1 and 19 to require high strength and high modulus fibers has overcome the previously applied prior art rejection in view of Cain et al., which taught the creation of a hat.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 23-30 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The composition of the high strength and high modulus fibers which is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The instant specification provides for VECTRAN®, KEVLAR® and other high performance fibers but it does not mention fibers of the instantly claimed composition.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner believes that Applicant has inadvertently switched the quantities of the co-reactant and the pre-polymer in claim 3. According to the table of the specification the pre-polymer is to be 100.0 parts by weight and the curative is to be 26.1 parts by weight. For examination purposes, claim 3 will be interpreted according to the table in the specification.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5-7, 19-21 and 23-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Barber, JR. (US 2004/0101680 A1).

Barber, JR. teaches an abrasive article comprising a fiber web of polyester, polyamide or polyaramid fibers [0081] that contains composition comprising a blocked polyisocyanate (polyurethane pre-polymer), a co-reactant curative [0006-7], a cross-linked copolymer and optionally a diluent [0058]. Examiner has interpreted the fibers of the applied application to be of high strength and high modulus as they are of common composition

with those of Applicant's claims 23-30. The composition comprising the pre-polymer and curative may be applied to the fiber web by a variety of processes that would lead the composition to impregnate and coat the fiber web [0065]. The curative stoichiometry of the pre-polymer/curative composition may range from 0.75 to 1.25 or 75 to 125 percent [0050]. Claims 3 and 7 are rejected as the applied composition may comprise from 5-90 weight percent pre-polymer and from 0.001 to 40 weight percent cross-linked copolymer. Therefore, the remaining weight percentage of the applied composition may be the curative component. This allows for the curative to range from ~0 to ~95 weight percent and anticipates the instantly claimed compositions.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber, JR. as applied to claim 1 above, and further in view of Fitzer et al. (US 4,227,350). The disclosure of Barber, JR. is silent as to the use of a second layer of resin-coated fabric.

a. Fitzer et al. teach a low-density abrasive product formed of a uniform cross-section lofty web comprised of an undulated entangled bonded filaments of high yield strength material impregnated with binder (Abstract). Figure 6, shows an embodiment of the abrasive product comprising a stack of several layers of the entangled web prior to the compression of said stack and the final curing of the article (col. 3, lines 12-22). The

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thermoplastic material has a high yield strength of at least 3000 psi to provide the necessary degree of toughness for the prolonged use as an abrasive article (col. 4, lines 50-55).

b. Since Barber, JR. and Fitzer et al. are from the same field of endeavor (i.e. abrasive articles), the purpose disclosed by Fitzer et al. would have been recognized in the pertinent art of Barber, JR.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Barber, JR. with additional layers of the abrasive article with the motivation of making the abrasive article available for prolonged usage as disclosed by Fitzer et al. (col. 4, lines 62-68).

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims Claims 1-3, 5-7 and 19-22 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mdm *MDM*

*Norca*  
Norca L. Torres-Velazquez  
Primary Examiner  
Art Unit 1771

1/22/07